

Cc: Webster, Susan[webster.susan@epa.gov]; Restivo, Angela[Restivo.Angela@epa.gov];
Petersen, Chris[petersen.chris@epa.gov]; Martin, John[martin.john@epa.gov]
To: Foster, Althea[Foster.Althea@epa.gov]
From: Crossland, Ronnie
Sent: Mon 8/10/2015 2:28:17 AM
Subject: Fwd: Questions about pretreatment

Sent from my iPhone

Begin forwarded message:

From: "Griswold, Hays" <Griswold.Hays@epa.gov>
Date: August 9, 2015 at 8:47:03 PM CDT
To: "Way, Steven" <way.steven@epa.gov>
Cc: "Ostrander, David" <Ostrander.David@epa.gov>, "Crossland, Ronnie" <Crossland.Ronnie@epa.gov>
Subject: Re: Questions about pretreatment

I will try to answer what I can...

Steve answered the flocculent question...

The holding ponds cascade from one to the next (total of 4) then out to the Cement Creek which flows to the Animas River.

Holding times are approximate...pond 1 1hr...pond 2 2hr...pond 3 2hr...pond 4 filter pond through gravel. Total 5+ hours.

Floc is leaving the treatment system....no choice there...

We are just setting up to sample treated water....

We are setting up to collect those parameters...

Hays

Sent from my iPad

On Aug 9, 2015, at 5:52 PM, Way, Steven <way.steven@epa.gov> wrote:

In response to questions regarding the mine water treatment system, attached is the discussion about the temporary mine water management system for the Red and Bonita Mine, which is the same approach being used on the treatment for the Gold King mine at this time. Note, the current settling pond configuration is not the same, and I am not there to give you more details. The objective is to move the mine discharge flow to the previously established settling pond. However, the discharge from the Gold King prior to the blow out was approximately 75 gpm, and is not approximately 500 to 700 gpm. The necessary piping to convey the increased adit flow is being put in place. In the

interim, temporary settling basins are being used to treat and settle the solids as effectively as possible.

The one current change to the Gold King mine water treatment process is the addition of lime to assist with the settling.

Keep in mind, the objective of the treatment at this point is to merely reduce the metals load downstream to the extent possible and buffer the increased flow from the adit to mitigate the estionadditional acidity. The receiving body of water, Cement Creek, is void of aquatic life and has been for years – it's pH is approximately 3 normally near the confluence with the Gold King Mine. It is many miles downstream to the Animas River, in Silverton.

The flocculent being used was reviewed by our toxicologists in 2013 before it was put to use on this project.

Steve

Steven Way

Federal On-Scene Coordinator

Emergency Response Unit

US EPA - Region 8

1595 Wynkoop Street

Denver, CO 80202

Office: 303-312-6723

From: Ostrander, David
Sent: Sunday, August 09, 2015 9:14 AM
To: Way, Steven
Subject: Fwd: Questions about pretreatment

Sent from my iPad

Begin forwarded message:

From: "Crossland, Ronnie" <Crossland.Ronnie@epa.gov>
Date: August 8, 2015 at 6:15:03 PM MDT
To: "Ostrander, David" <Ostrander.David@epa.gov>
Subject: Re: Questions about pretreatment

David

Do you know the brand of the flocculant and caustic/lime? Do you check pH before it is released. How do know when it is okay to release?

Ronnie

Sent from my iPhone

On Aug 8, 2015, at 5:48 PM, Ostrander, David <Ostrander.David@epa.gov> wrote:

Sent from my iPhone

Begin forwarded message:

From: "Griswold, Hays" <Griswold.Hays@epa.gov>
Date: August 8, 2015 at 4:36:00 PM MDT
To: "Ostrander, David" <Ostrander.David@epa.gov>
Subject: Re: Questions about pretreatment

Maybe not in a civil manner.

The ponds are being cobbled together out of waste rock washed down and lined with liner that was on hand. The flocculant is being hand fed into the flume at the adit as is caustic and or lime depending on availability and all goes to the first pond them down to cement creek which is looking like a banana milkshake due to the rain.

If you want to forward this back to him please do.

Maybe I should take a series of pictures of system for illustration.

Hays

Sent from my iPhone

On Aug 8, 2015, at 1:44 PM, Ostrander, David
<Ostrander.David@epa.gov> wrote:

Can you answer these questions?

Sent from my iPhone

Begin forwarded message:

From: "Crossland, Ronnie" <Crossland.Ronnie@epa.gov>
Date: August 8, 2015 at 1:39:09 PM MDT
To: "Ostrander, David" <Ostrander.David@epa.gov>
Subject: FW: Questions about pretreatment

David,

We had a discussion with NMED today and they had the following questions which they would like to have answers to help them plan for possible affects to drinking water systems.

- █ █ █ █ █ █ █ █ Specifically what type of coagulant is being used to treat the water?
- █ █ █ █ █ █ █ █ Is the water being treated in the holding pond being released to the Animas River?
- █ █ █ █ █ █ █ █ If so, holding time for this releasing?
- █ █ █ █ █ █ █ █ Is care being taken to ensure that floc is not

leaving the treatment area?

- Are samples of the treated water being collected?
- Are they also conducting field monitoring for standard water quality parameters (pH, DO, turbidity, temp) prior to releasing?

Thanks,

Ronnie

<Mine Water Treatment-Temporary System - 2015.docx>